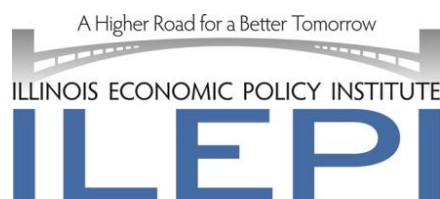


FREE-RIDER STATES

How Low-Wage Employment in “Right-to-Work” States Is Subsidized by the Economic Benefits of Collective Bargaining



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EXECUTIVE SUMMARY

This study investigates the impact of “right-to-work” (RTW) laws on worker earnings, employment, tax revenues, and government assistance. The analysis has resulted in the following key findings:

Right-to-work laws have negative impacts on the public budget.

- A RTW law reduces worker income from wages and salaries by 3.2 percent on average.
- Employees work slightly more hours per week (+0.6 hours) and weeks per year (+0.4 weeks) in RTW states, but this is likely because lower incomes force employees in RTW states to work longer hours to earn as much as their counterparts in collective-bargaining (CB) states.
- A RTW law reduces the union membership rate by 9.6 percentage points.
- A RTW law lowers both the share of workers who are covered by a health insurance plan by 3.5 percentage points and the share of workers who are covered by a pension plan by 3.0 percentage points.
- A RTW law increases the poverty rate among workers (the “working poor”) by 0.9 percentage points.
- A RTW law lowers the after-credit federal income tax liability of workers by 11.1 percent.
- From 2011 through 2013, 46.6 percent of workers in RTW states paid no federal income taxes compared to 44.5 percent of workers in CB states.
- Despite paying more in taxes, CB workers receive 18.9 percent less in tax relief from the Earned Income Tax Credit and 14.1 percent less in food stamp value than workers in RTW states.
- On average, union membership lifts a worker’s wage and salary income by 17.4 percent, improves health insurance coverage by 6.4 percentage points, raises pension coverage by 12.5 percentage points, increases a worker’s federal tax liability by 18.5 percent, reduces reliance on food stamps by 1.1 percentage points, and lowers the probability of a worker being below the official poverty line by 2.9 percentage points.

Workers in CB states are subsidizing the low-wage model of employment in RTW states.

- While workers in RTW states account for just 37.4 percent of all federal income tax revenues, they receive 41.9 percent of all non-health, non-retirement government assistance.
- Workers in RTW states receive \$0.232 in non-health, non-retirement government assistance per dollar of federal income tax contributions compared to \$0.187 per dollar for CB workers.
- Ultimately, non-health, non-retirement government assistance constitutes 9.3 percent of the average worker’s *total income* in a RTW state compared to just 7.4 percent in a CB state.
- In 2005, total federal government spending (on all programs) per dollar of federal taxes contributed was \$1.16 in RTW states and \$0.95 in CB states, including just \$0.75 in Illinois.
- In 2012, labor’s share of GDP was 54.4 percent in CB states but just 51.5 percent in RTW states while capital’s share was 39.1 percent in CB states but 41.7 percent in RTW states, indicating that CB workers are subsidizing employment practices which redistribute income from labor to capital in RTW states.

Illinois would have been worse off if it was a RTW state in 2013.

- Fewer than 47,000 additional workers would have been employed.
- Total labor income would have been \$12.3 billion lower (\$2,444 lower per worker for the year) and the official poverty rate for workers would have been 1.2 percentage points higher.
- Health insurance and pension coverage would have respectively been 4.1 percentage points and 4.2 percentage points lower in the state, transferring costs from employer-sponsored plans onto taxpayers.
- Federal income tax revenues would have been experienced a \$4.8 billion void and state income tax revenues would have been \$492.3 million lower.
- Spending on the Earned Income Tax Credit and on food stamps to workers would have been \$307.1 million and \$159.0 million higher, respectively.

Right-to-work laws allow employees to free-ride on the efforts of their peers in a collective bargaining unit and, by reducing worker incomes, allow poorer RTW states to free-ride on the higher income tax revenues generated by workers in CB states. Right-to-work laws weaken state economies and strain public budgets.

INTRODUCTION

As the nation continues to recover from the Great Recession, many states are rethinking policies on economic development. While policymakers across the country agree that employment growth, wage growth, and responsible government investment drive economic improvement, there is disagreement on the public policies required to achieve these outcomes. One proposed policy change in many states is the implementation of a “right-to-work” law, which limits the ability of collective bargaining units to collect dues and fees from the workers they represent and to influence the conditions of employment in a workplace. Right-to-work proponents argue that the laws encourage businesses to locate in a state, thereby increasing employment and tax revenues. Conversely, opponents of right-to-work laws assert that they decrease unionization, reduce wages, and have no impact on employment, thereby harming the economy and lowering tax revenues.

While the empirical evidence on the effect of adopting a right-to-work law on labor market outcomes and state budgets varies, most research findings concur with right-to-work’s opponents. If, however, the adoption of such a law is to remain in the policy discussion for states across America, voters and workers both deserve sound information regarding the effect of the policy– including right-to-work’s impact on worker earnings, employment, tax revenues, and government assistance. It is widely recognized that low-wage employers, like Wal-Mart and McDonalds, socialize their employment costs, whether operating in right-to-work or collective-bargaining states. As a consequence, social insurance programs and public health services subsidize employers whose workers need government assistance despite having paid employment. The transfer of tax dollars from the public treasury to unemployed and employed workers is a necessary life-line to those individuals. It is also, however, an additional cost borne by the public that allows employers to offer low wages and retain a higher proportion of revenues as company profit (House CEW, 2014).

The following study, conducted by researchers at the Illinois Economic Policy Institute and the University of Illinois at Urbana-Champaign, therefore investigates the impact of a right-to-work law on these socioeconomic outcomes.

WHAT IS A RIGHT-TO-WORK LAW?

“Right-to-work” has nothing to do with the right of an individual to seek and accept gainful employment. Instead, a right-to-work (RTW) law is a government regulation which bars labor unions from including union security clauses in collective bargaining agreements with employers. Union security clauses ensure that each member of a bargaining unit who receives the benefits of collective bargaining– e.g., a higher wage, better health and retirement benefits, grievance representation, a voice at work– also provides his or her fair share of dues or fees. By both law and the practicalities of the workplace, labor unions must represent all employees covered by their organization.

Workers are *not* forced to join a union anywhere in America. In a collective-bargaining state (CB state)– also called a free-bargaining state or a non-right-to-work state– employers and labor unions are at liberty to negotiate a range of union security clauses. They may, but are not *mandated* to, agree to a union security clause that requires all persons covered by the contract to pay dues or fees to cover the cost of bargaining activities. In these states, covered employees are only required to pay for bargaining costs and are not forced to finance non-bargaining or political activities. Some collective bargaining agreements also allow union objectors to contribute their dues to charity.

A right-to-work law denies workers the basic right to enter into contracts with employers. RTW makes the payment of dues or fees optional for all bargaining unit members, allowing workers to “free-ride” on the efforts and contributions of others. When a significant number of individuals make the microeconomic decision to free-ride, the representative unit becomes resource-starved, causing it to underperform. Research has shown that right-to-work reduces the union membership rate by 5 to 8 percentage points (Moore, 1980) and possibly by as much as 8.8 percentage points (Hogler et al., 2004) while also increasing free-riding by 8.3 percentage points (Davis & Huston, 1993). Thus, the true intent of a RTW law is to discourage union activity and reduce bargaining power for workers.

For a full list of the 24 RTW states and 26 CB states plus the District of Columbia as of January 1, 2014, see Table H in the Appendix.



WORKERS ARE BETTER OFF IN COLLECTIVE-BARGAINING STATES

While some studies find no evidence that RTW impacts worker income (Moore, 1980; Eren & Ozbeklik, 2011; Hogler, 2011), many recent reports have found that the policy causes a loss in worker earnings. Stevans (2009), for instance, used an advanced statistical analysis to find that worker wages and per-capita personal income are both lower on average in RTW states. He found that RTW lowers worker wages by 2.3 percent but increases proprietor income by 1.9 percent, indicating that RTW is a transfer of income from employees to owners with “little ‘trickle-down’ to the largely non-unionized workforce in these states.” Gould and Shierholz (2011) control for almost all observable characteristics and estimate that RTW reduces wages by 3.2 percent on average while lowering employer-sponsored health insurance benefits by 2.6 percent. RTW has also been found to reduce the wages of *nonunion* workers by 3.0 percent (Lafer, 2011). Lastly, a 2013 study by the University of Illinois found that RTW laws are associated with a 2 to 8 percent reduction in worker incomes, “with the general effect being about a 6 percent drop” (Manzo et al., 2013).

The evidence on RTW’s purported employment effects is mixed. While early studies suggested that RTW increases manufacturing employment (Dinlersoz & Hernandez-Murillo, 2002; Kalenkoski & Lacombe, 2006), recent research finds no impact on manufacturing employment and calls the prior results into question (Eren & Ozbeklik, 2011). In addition, the preponderance of research finds no discernible effect of RTW laws on total employment (Stevans, 2009; Hogler, 2011; Collins, 2012). Finally, the University of Illinois estimated that RTW’s impact on employment could range from a 1.2 percentage point decrease in total employment to a 1.4 percentage point increase in total employment. In either case, the effect is minimal (Manzo et al., 2013).

The macroeconomic conclusions drawn from economic research about right-to-work laws are problematic for public sector budgets. If RTW laws reduce labor income by 2 to 8 percent but have a minimal (or zero) impact on employment, then RTW reduces consumer demand in the economy. Lower incomes mean reduced revenue from income taxes, sales taxes, and property taxes. By producing a drop in worker wages, RTW could also cause more workers to rely on government programs to cover the costs of living, such as for food, housing, and health care. This Research Report explores these possibilities.

DATA, METHODOLOGY, AND LIMITATIONS

Unless otherwise noted, all data utilized in this Research Report are from the March Current Population Survey (CPS) for 2011, 2012, and 2013. The March CPS is a survey of 60,000 randomly-selected households across America, jointly sponsored by the U.S. Census Bureau and the U.S. Bureau of Labor Statistics. Data are collected through personal and telephone interviews of the civilian non-institutionalized population 16 years and older, and weights are provided to match the survey sample to the overall American population. Estimates from the U.S. Department of Labor on the unemployment rate and on a wide range of employment and earnings factors are all derived from the CPS. State and federal taxes, both before and after credits and deductions, are imputed by the Census Bureau using an improved technical model outlined in two 2006 papers (O'Hara, 2006; HHESD, 2006). In total, the dataset comprises 275,655 observations from employed persons over the three years of analysis across America, including 166,490 respondent workers (60.4 percent) from collective bargaining states. The information was extracted from the Integrated Public Use Microdata Series (IPUMS-CPS) project by the Minnesota Population Center at the University of Minnesota (King et al., 2010).

This study analyzes data in three ways. First, workers in RTW states are compared to workers in CB states using simple averages. This method describes “what is,” yielding results from the survey that are uncontrolled for but are weighted to match the overall U.S. employed population.

Second, ordinary least squares (OLS) regressions are used to parse out the actual and unique causal effect that right-to-work laws have on such variables as wage and salary income, total income, usual hours worked, and weeks worked. This technique describes “how much is:” for example, how much is a RTW law responsible for the lower wages in a state, after controlling for other observable factors that could also have an impact on a worker’s wages? In all OLS regressions, variables that are accounted for include age, gender, race/ethnicity, urban status, marital status, immigrant status, citizenship, school enrollment, private or government employment, educational attainment, veteran status, disability status, occupation, and industry. The models are all weighted to match the population using sampling weights.

Finally, an advanced statistical approach called a probit regression model is utilized. A probit regression model allows for analysis of the probability of a “binary” yes-or-no variable occurring after accounting for other factors. This technique describes “what the (increased or decreased) chance is” that a worker is, for example, a union member if he or she resides in a RTW state. In this study, probit regressions report the (positive or negative) direction of the effect that a RTW law has on the probabilities of being a union member, being covered under a health insurance plan, having a pension plan at work, living below the poverty line, being a food stamp recipient, and being employed in the labor force. To determine the magnitude of statistically significant factors, average marginal effects (AMEs) are produced and reported. The models are all weighted to match the population using importance weights.

There are limitations to both the dataset and the statistical approaches taken by this study. First, data from the March Current Population Survey report a worker’s state of residence rather than state of employment,

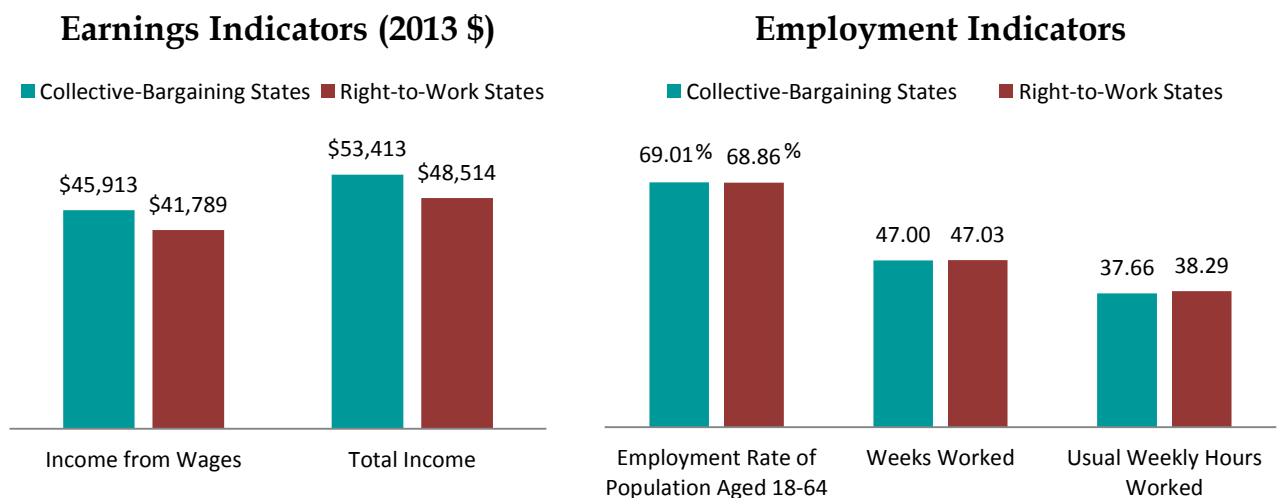
so the results may be biased by workers who live in RTW states but work in CB states (e.g., living in Iowa but working in Minnesota) and vice-versa. CPS data is also based on household survey responses rather than on administrative payroll reports. Additionally, the data is based on individual respondents and is categorized by state. Of course, the economy of Boston (in CB-state Massachusetts) is likely very different from the market in Boise (in RTW-state Idaho), so the analysis is imperfect to some extent. Accounting for factors that may influence why RTW and CB economies are different (such as industry mix or educational attainment) helps to net out most of these differences. Still, future research should focus on contiguous border counties where RTW is the law on one side and CB is the state law across the border or focus on RTW's impact after a given adopted the policy. The final concerns are those associated with all regression models, such as lurking and unobservable variables.

IMPACTS OF RIGHT-TO-WORK AND UNIONIZATION ON EARNINGS AND EMPLOYMENT OUTCOMES

Workers earn less in right-to-work states. From 2011 through 2013, the average worker in a RTW state earned \$41,789 per year in wage and salary income (in constant 2013 dollars). The average real wage and salary income for workers in CB states was \$45,913 annually, or 9.9 percent more than for RTW workers. The story is similar when evaluating *total income* from all sources— which includes income from business ownership, from interest and dividends, from renters, from alimony, from survivor's benefits, and from government assistance. The inflation-adjusted total income of workers in RTW states averaged \$48,514 per year from 2011 through 2013 but was \$53,413 annually in CB states (10.1 percent more) (Figure 1).

Despite the claims of right-to-work proponents, employment is not higher in RTW states. The share of the working-age population that had a job (i.e., the employment rate) was 68.9 percent in RTW states in 2011, 2012 and 2013. By contrast, the employment rate of persons aged 18 through 64 years old was effectively the same in CB states at 69.0 percent. The mean number of weeks worked in the previous year was 47.0 weeks in both types of states as well. Finally, workers in RTW states usually work an average of 38.3 hours each week compared to 37.7 hours on average for those in CB states. Together, these indicators refute assertions that RTW laws necessarily lead to better employment outcomes but substantiate the finding that RTW laws lower worker incomes (Figure 1).

Figure 1: Earnings and Employment Indicators, CB States vs. RTW States, 2011-2013



Source: Authors' analysis of the March CPS (IPUMS-CPS), Minnesota Population Center at the University of Minnesota (2010) for employed persons in 2011, 2012, and 2013. Dataset includes 275,655 observations of workers. Observations are weighted to match the U.S. Population.

While important and suggestive, these simple averages of earnings and employment statistics could be the result of a litany of factors other than whether a state has a RTW law. Factors that could influence how much money a worker earns or the quantity of work performed include, but are not limited to, union membership, demographics, educational attainment, urban status, marital status, public or private sector work, firm size, veteran status, disability status, occupation, industry, and national trends. Figure 2 presents results from advanced regressions on the effect of a RTW law on earnings and employment. All outcomes displayed in the tables are statistically significant. Full outputs from the regressions are available in Tables A, B, and C in the Appendix.

After accounting for nearly all other observable variables, a RTW law reduces worker earnings on average (Figure 2). Holding all else constant, a RTW law is found to lower wage and salary incomes by 3.2 percent on average. This 3.2 percent estimated reduction in worker earnings due to RTW aligns with Gould and Shierholz's (2011) estimated effect. The law also shrinks total income from all sources by 4.3 percent on average for workers in RTW states compared to those in CB states. By contrast, after controlling for all other factors, union membership raises a worker's wage and salary income by 17.4 percent on average and increases total income by an average of 12.5 percent. The 12 to 18 percent increase in earnings due to being a union member parallels estimates from numerous studies (Freeman, 1991; Card, 1992; Hirsch & Macpherson, 2006; Schmitt, 2008; Mishel, 2012; Schmitt & Woo, 2013; Manzo et al., 2014). Clearly, unionization is more effective than RTW laws at lifting worker incomes.

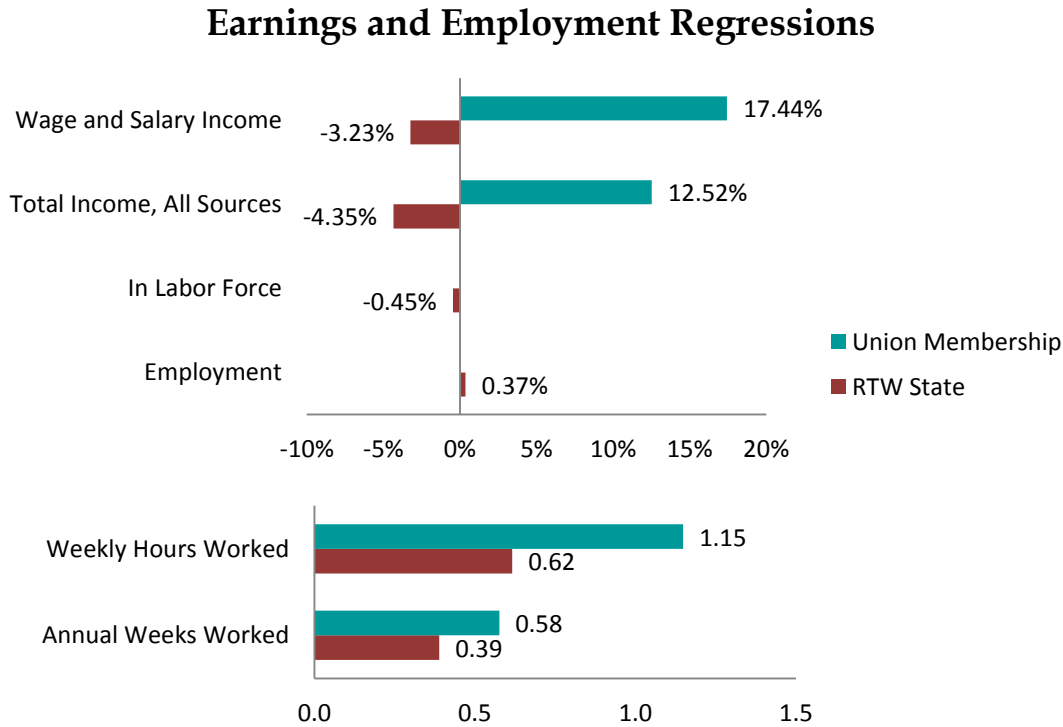


The regression analyses find relatively mixed impacts of RTW laws on employment outcomes (Figure 2). After accounting for other variables, RTW laws are correlated with a minor 0.4 percentage point increase in the employment rate (also see Manzo et al., 2013). The policy lowers the labor force participation rate, on the other hand, by an average of 0.5 percentage points—implying that RTW laws may encourage workers to leave the labor market if they cannot find work. As a result, a slightly lower share of the population in the labor force artificially lowers the unemployment rate in RTW states compared to CB states, further calling into question any purported employment benefits of a RTW law. A lower level of unionization in a state also has no statistical impact on the state's employment rate (Figure 3).¹ Furthermore, a RTW law raises weekly hours worked and annual weeks worked by small amounts: 0.6 hours and 0.4 weeks on average, respectively. Union membership, in comparison, increases the average employee's workweek by 1.1

¹ Union membership is not included in the probit regressions on "in labor force" and "employment" in Figure 2 because one *must* be both in the labor force and employed in order to be a union member. Analysis on whether unions raise or reduce employment is therefore limited to state-level correlations, as depicted in Figure 3.

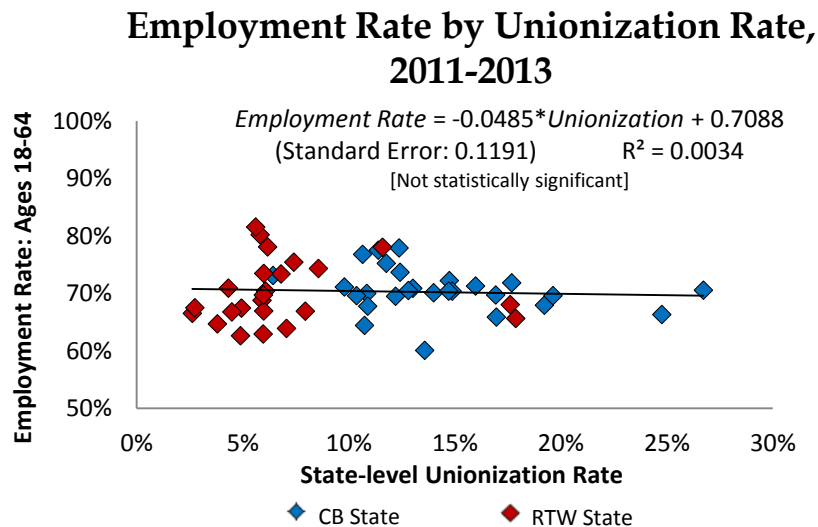
hours and annual weeks worked by 0.6 weeks (Figure 2). Therefore, if a RTW law has a negative impact on union membership, any positive effects of RTW on weeks and hours worked are offset because the policy reduces the positive (and stronger) impacts of union membership.

Figure 2: The Impacts of RTW and Union Membership on Earnings and Employment Indicators, Regression Results, 2011-2013



Source: Authors' analysis of the March CPS (IPUMS-CPS), Minnesota Population Center at the University of Minnesota (2010) for employed persons in 2011, 2012, and 2013. Dataset includes 275,655 observations of workers. Observations are weighted to match the U.S. Population. All displayed results are statistically significant. For full regression analyses, see Appendix Table A, Table B, and Table C.

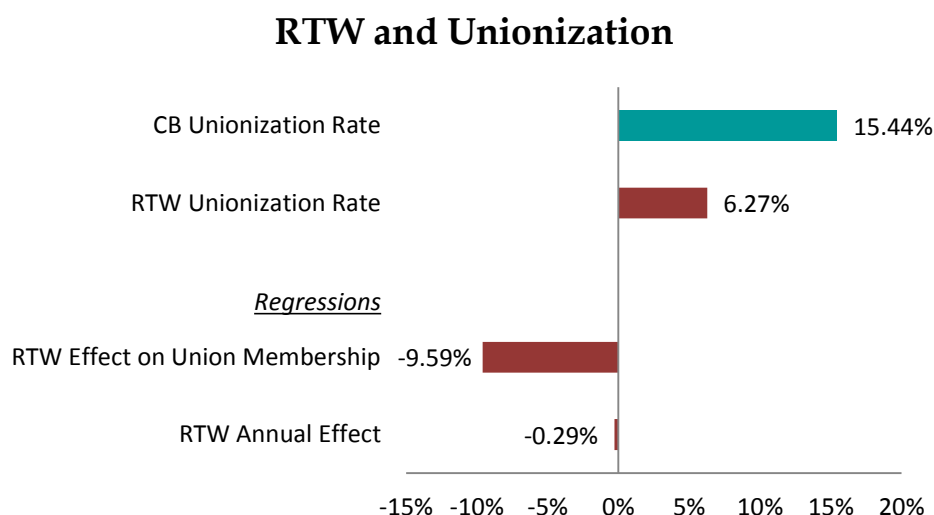
Figure 3: Employment Rate by Unionization Rate, 2011-2013



Source: Authors' analysis of the March CPS (IPUMS-CPS), Minnesota Population Center at the University of Minnesota (2010) for employed persons in 2011, 2012, and 2013. Dataset includes the District of Columbia. "Employment Rate: Ages 18-64" and "State-level Unionization Rate" are three-year averages. Indiana and Michigan are included as RTW states in this analysis.

Union membership is lower in right-to-work states than in collective-bargaining states (Figure 4). From 2011 through 2013, the unionization rate was 15.4 percent among workers in CB states but just 6.3 percent for workers in RTW states. The 9.2 percentage-point difference in unionization between CB states and RTW states can be entirely explained by the unique effect of the RTW policy itself: after accounting for other factors, a RTW law decreases the probability that a worker is a member of a labor union by 9.6 percentage points on average. RTW also reduces the chances that a worker is a union member by 0.3 percentage points *each year* on average compared to a worker in a CB state (See Appendix Table D for full regression results).

Figure 4: The Impact of RTW on the Unionization Rate, CB States vs. RTW States and Regression Results, 2011-2013



Source: Authors' analysis of the March CPS (IPUMS-CPS), Minnesota Population Center at the University of Minnesota (2010) for employed persons in 2011, 2012, and 2013. Dataset includes 275,655 observations of workers. Observations are weighted to match the U.S. Population. All displayed results are statistically significant. For full regression analysis, see Appendix Table D.



Proponents of RTW laws often contend that annual employment growth and annual wage growth are higher in RTW states (Figure 5). Results from the regression analyses provide “growth” estimates for 2013 compared to 2012 and 2012 compared to 2011 (See Appendix Tables A, B, and C

for the full regression outputs). After controlling for other variables, RTW is revealed to have no effect on annual income growth, weekly hours worked, or annual weeks worked in RTW states compared to CB states. Again, RTW laws have mixed impacts on employment outcomes. On average, a RTW policy marginally increases employment by 0.03 percentage points each year but decreases participation in the labor force by 0.06 percentage points every year. A RTW law thus has negative effects on worker earnings but overall inconclusive effects on the total quantity of labor supplied by all workers.

Figure 5: The Impact of RTW on Earnings and Employment Growth Indicators, Regression Results, 2011-2013

RTW Annual "Growth" Compared to CB States, Regressions	
Wage and Salary Income (2013 \$)	No effect
Total Income, All Sources (2013 \$)	No effect
Weekly Hours Worked	No effect
Annual Weeks Worked	No effect
Employment Rate	0.03%
Labor Force Participation Rate	-0.06%
Union Membership	-0.29%

Source: Authors' analysis of the March CPS (IPUMS-CPS), Minnesota Population Center at the University of Minnesota (2010) for employed persons in 2011, 2012, and 2013. Dataset includes 275,655 observations of workers. Observations are weighted to match the U.S. Population. All displayed results are statistically significant. For full regression analyses, see Appendix Table A, Table B, Table C, and Table D.

IMPACTS OF RIGHT-TO-WORK ON TAX REVENUES AND PUBLIC ASSISTANCE

Due to the progressivity of America's federal income tax code, workers with higher incomes pay a larger share of their incomes in taxes. Workers with lower incomes, meanwhile, are more likely to rely on government assistance. Accordingly, if a RTW law lowers worker incomes by between 3.2 and 4.3 percent and reduces unionization by 9.6 percentage points, then employed persons in RTW states pay less in federal income taxes and may receive more in public assistance than their counterparts in CB states. To evaluate whether this logic materializes in reality, both simple averages and the advanced regression techniques are once again utilized.

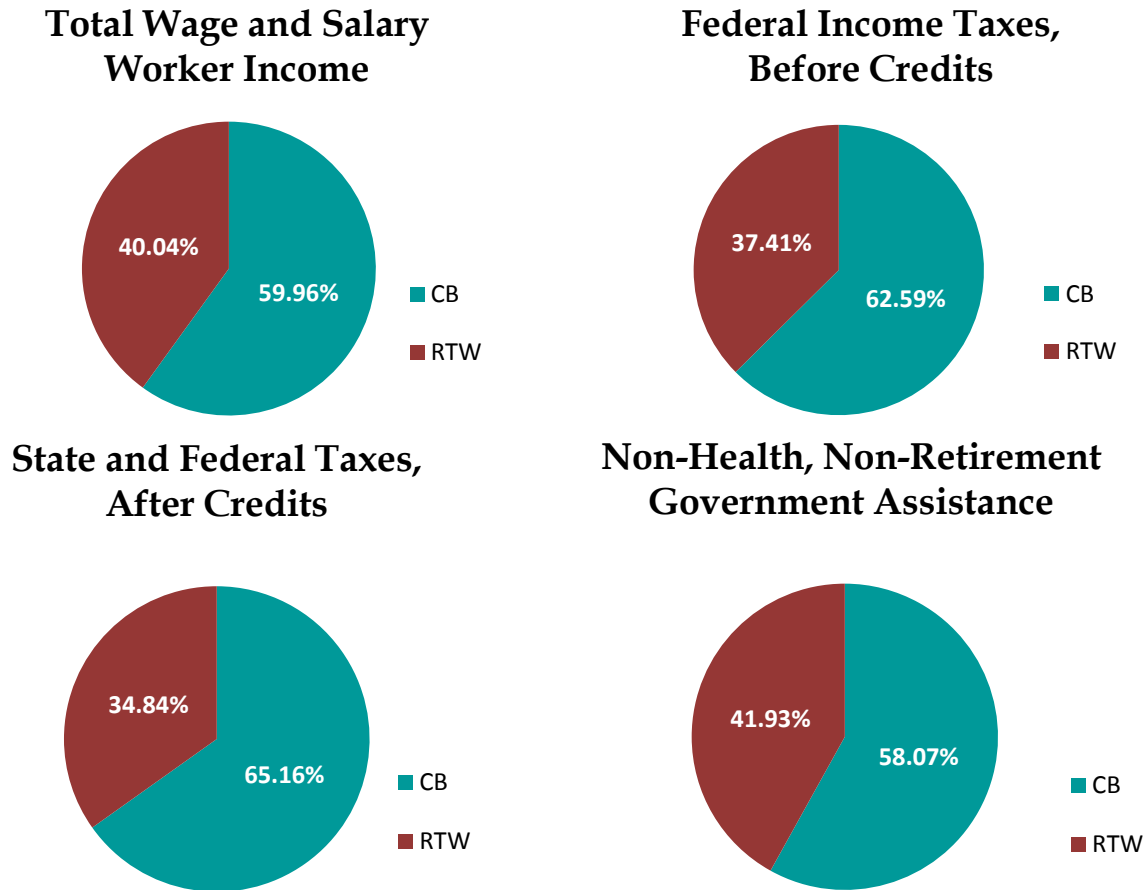
The March CPS provides information on at least eight categories of non-health, non-retirement benefits, itemized in Figure 6. These include tax relief through the Earned Income Tax Credit (EITC), welfare benefits, unemployment insurance, workers compensation, educational assistance, veteran's income, disability income, and Supplemental Nutrition Assistance Program (SNAP or "food stamp") income. From 2011 through 2013, spending on these eight programs for *workers* (i.e., not on the unemployed, or those who are out of the labor force, or on children) totaled \$155.9 billion on average, including an average of \$65.4 billion (41.9 percent) in RTW states. This \$155.9 billion was close to half of all federal spending on benefits for people with low income. In 2009, for example, this type of spending— "cash aid," "food assistance," "education," "social services," and "employment and training"— totaled \$318.2 billion (Spar, 2011). Note that, over recent decades, government assistance has shifted from direct cash assistance programs to a model that aims to encourage employment. For example, traditional welfare now accounts for a small 1.0 percent of government assistance to workers while the Earned Income Tax Credit comprises 20.9 percent. The data also show that, although there are fewer workers in RTW states, those states cumulatively receive about the same level of EITC assistance and food stamp benefits as CB states (Figure 6).

Figure 6: Itemized Non-Health, Non-Retirement Government Assistance to Workers, CB States vs. RTW States, 2011-2013

Non-Health, Non-Retirement Benefit to Workers, Average 2011-2013	CB State	RTW State
Earned Income Tax Credit	\$17.15 billion	\$15.50 billion
Welfare Benefits	\$1.19 billion	\$0.40 billion
Unemployment Insurance	\$20.87 billion	\$9.91 billion
Workers Compensation	\$2.56 billion	\$1.09 billion
Educational Assistance	\$21.18 billion	\$13.91 billion
Veteran's Income	\$5.10 billion	\$6.43 billion
Disability Income	\$2.34 billion	\$1.00 billion
SNAP (Food Stamp) Income	\$20.16 billion	\$17.14 billion
Sum of Government Assistance	\$90.54 billion	\$65.39 billion
Percentage of Government Assistance	58.07%	41.93%

Source: Authors' analysis of the March CPS (IPUMS-CPS), Minnesota Population Center at the University of Minnesota (2010) for employed persons in 2011, 2012, and 2013. Dataset includes 275,655 observations of workers. Observations are weighted to match the U.S. Population.

Figure 7: Comparison of Income, Tax Contributions, and Government Assistance, CB States vs. RTW States, 2011-2013

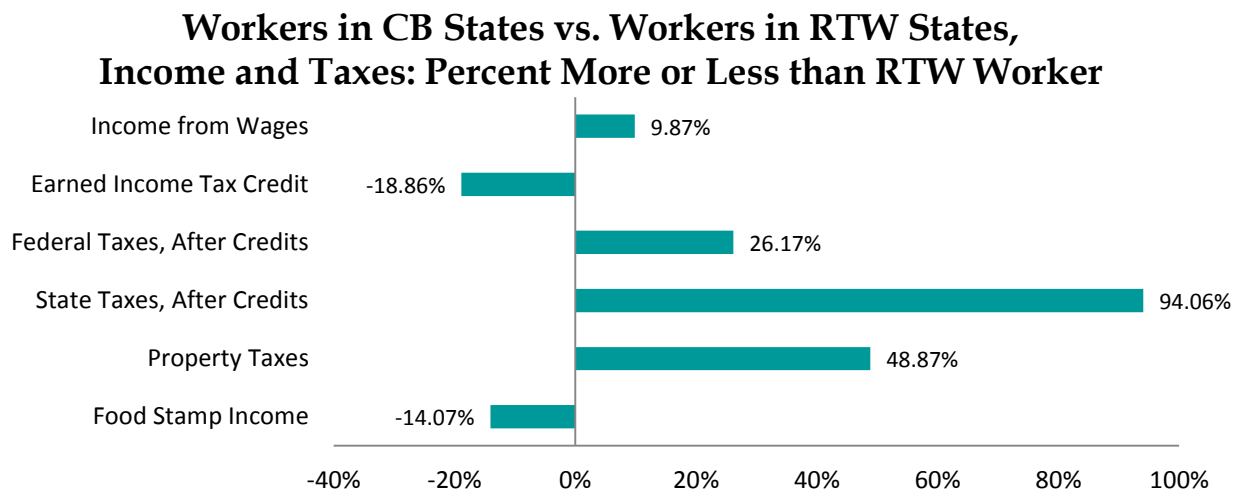


Source: Authors' analysis of the March CPS (IPUMS-CPS), Minnesota Population Center at the University of Minnesota (2010) for employed persons in 2011, 2012, and 2013. Dataset includes 275,655 observations of workers. Observations are weighted to match the U.S. Population. Note that the RTW share is larger in the government assistance pie chart than it is in the government contributions charts

Figure 7 compares the total wage and salary income to the taxes paid and benefits received by workers in CB and RTW states. Workers in RTW states account for 40.0 percent of all labor income in America. By contrast, they pay 37.4 percent of all federal income taxes before tax credits and deductions and contribute just 34.8 percent of all state and federal taxes after credits and deductions. But workers in RTW states receive 41.9 percent of all non-health, non-retirement government assistance provided to the employed population in America, lending credence to the idea that RTW has adverse impacts on the public budget. Workers in RTW states receive more in government assistance (41.9 percent) than they contribute in tax revenues (37.4 percent).

Figure 8 displays how much more money the average worker in CB states either earns or contributes in federal taxes compared to his or her counterpart in RTW states, uncontrolled for other factors. As noted in the previous section, incomes are 9.9 percent higher in CB states than RTW states. The average worker in a CB state pays 26.2 percent more in federal income taxes after credits and deductions and 94.1 percent more in state income taxes after credits and deductions compared to the average worker in a RTW state. CB workers also face property tax burdens that are 48.9 percent higher than those faced by RTW workers, indicating either that homeownership is more prevalent in CB states or that property tax rates are higher in CB states, or both. Despite paying more into the general fund of local, state, and federal government bodies, CB workers receive 18.9 percent less in tax relief from the Earned Income Tax Credit and 14.1 percent less in SNAP food stamp value than workers in RTW states (Figure 8). Finally, 46.6 percent of workers in RTW states pay no federal income taxes but instead receive an average of \$782 in tax credits (in constant 2013 dollars); the comparable figures are 44.5 percent and \$669 respectively for workers in CB states (Figure 9). Thus, a larger share of workers contribute positively to the public budget in CB states, and they pay more into the public purse while receiving less aid from the government.

Figure 8: Income and Taxes Paid by Workers in CB States as Compared to Those in RTW States



Source: Authors' analysis of the March CPS (IPUMS-CPS), Minnesota Population Center at the University of Minnesota (2010) for employed persons in 2011, 2012, and 2013. Dataset includes 275,655 observations of workers. Observations are weighted to match the U.S. Population.

Figure 9: Workers with No Federal Income Tax Liability, CB States vs. RTW States, 2011-2013

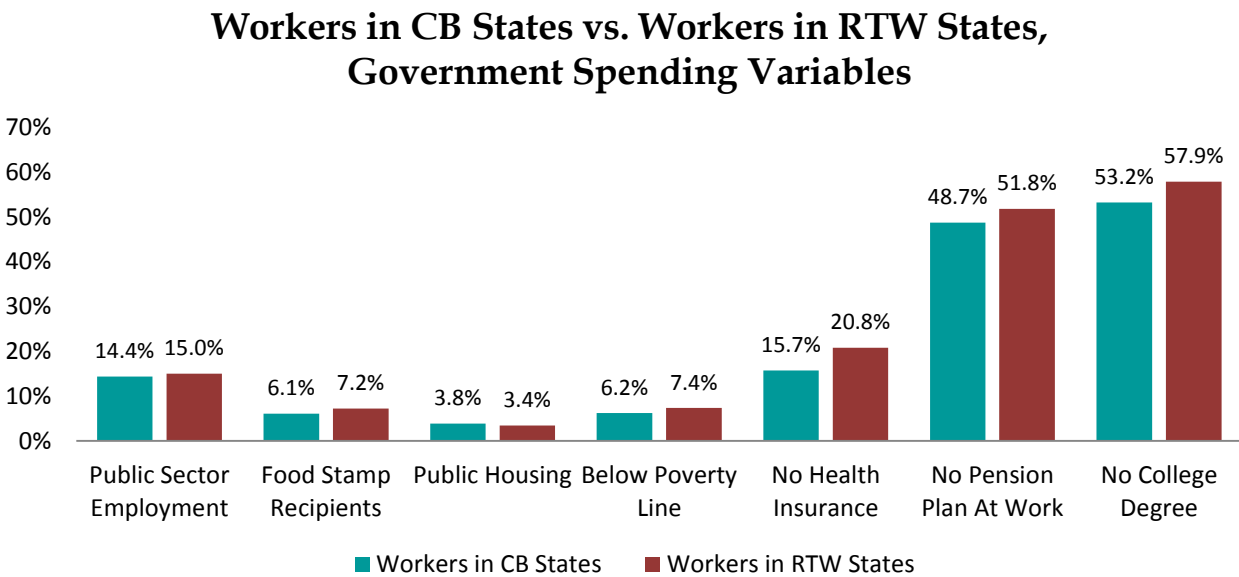
Workers with No Federal Income Tax Liability	CB	RTW
Share of Workers Paying No or Negative Income Taxes	44.5%	46.6%
Average Tax Credit to Low-Income Workers	-\$669.11	-\$782.37

Source: Authors' analysis of the March CPS (IPUMS-CPS), Minnesota Population Center at the University of Minnesota (2010) for employed persons in 2011, 2012, and 2013. Dataset includes 275,655 observations of workers. Observations are weighted to match the U.S. Population.

By paying more in taxes, workers in CB states are subsidizing the low-wage, low-skill model of employment in RTW states (Figure 10). RTW states actually have higher shares of the workforce who are employed by the public sector (15.0 percent compared to 14.4 percent) and who receive food stamps (7.2 percent to 6.1 percent). The percentage of workers who reside in public housing is also about the same in RTW states as in CB states (3.4 percent to 3.8 percent). The slightly greater fraction of CB workers living in public housing is the result of more generous public policies in those states. A larger share of the employed in RTW states are “working poor,” or below the official poverty line despite having a job. The poverty rate for workers in RTW states was 7.4 percent compared to 6.2 percent for workers in CB states. Thus, whether or not they receive government assistance, more workers in RTW states face conditions under which they cannot support a family.

From 2011 through 2013, 20.8 percent of workers in RTW states had no health insurance coverage and 51.8 percent of workers had no pension plan at work, compared to respective figures of just 15.7 percent and 48.7 percent in CB states (Figure 10). Workers in RTW states therefore rely more heavily on government programs for security when they suffer an illness or injury and when they exit the labor force into retirement. Finally, considerable dependency on government assistance may serve as a disincentive for workers to invest further in their own education. That is, if the government subsidizes a worker’s employment more in RTW states, then it is possible that neither workers nor firms find it economically rational to continue improving the skill level of labor. This reasoning could in part explain why there are more workers without a college degree (i.e., an associates, bachelors, or advanced degree) in RTW states (57.9 percent) than in CB states (53.2 percent).

Figure 10: Government Spending on Workers, CB States vs. RTW States, 2011-2013



Source: Authors’ analysis of the March CPS (IPUMS-CPS), Minnesota Population Center at the University of Minnesota (2010) for employed persons in 2011, 2012, and 2013. Dataset includes 275,655 observations of workers. Observations are weighted to match the U.S. Population.

Figure 11 provides estimates on the causal impact of a RTW law on many of these government revenues and expenditures after accounting for other factors (See Appendix Tables A, E, and F for the full regression outputs). Once other observables are incorporated, a RTW law is statistically associated with an average 11.1 percent reduction in the after-credit federal income tax liability for workers. Conversely, union membership is statistically correlated with an 18.5 percent average

increase in federal income taxes owed after credits and deductions compared to nonunion workers, since union membership unambiguously increases worker incomes on average.

Additionally, advanced predictive analytics are performed to estimate the effect that a RTW law has on the chances of a worker being covered by a health insurance plan, having a pension plan at work, living below the official poverty line, and receiving SNAP assistance. The evaluations account for a host of other factors *including* wage and salary income, to investigate whether RTW increases government reliance independent of income level. The results are telling. Holding all else constant, a RTW policy is found to reduce the probability that a worker has health insurance coverage (regardless of public, employer-sponsored, or individual plan) by 3.5 percentage points on average and to lower the likelihood of having a pension plan at work by 3.0 percentage points on average. Unions, on the other hand, increase health insurance coverage by an average of 6.4 percentage points while also raising the chances of having a pension plan at work by 12.5 percentage points on average (Figure 11).

In the timeframe of the analysis, there was higher annual growth in health insurance and pension coverage in RTW states compared to CB states (by 0.5 percentage points and 0.4 percentage points per year, respectively), but this finding could be because coverage levels were already depressed in RTW states and they are merely “playing catch up” (Figure 11). Higher growth in health insurance coverage from 2011 through 2013, for example, is likely due to the efforts of the Patient Protection and Affordable Care Act (passed in 2010) to cover more Americans through an insurance mandate. Health insurance coverage growth in RTW states, therefore, is mainly the result of a larger initial share of uninsured workers in RTW states.

Figure 11: The Impacts of RTW and Union Membership on Federal Income Taxes, Health Insurance, Pension Coverage, and Food Stamp Recipients, Regression Results, 2011-2013

Estimated Impacts from Regression Analyses	RTW Law	RTW Annual Growth Compared to CB	Union Membership	Observations (N=)
<i>OLS Regressions</i>				
Federal Taxes, After Credits	-11.066%	No effect	18.490%	22,607
<i>Probit Regressions</i>				
Health Insurance Coverage	-3.528%	0.512%	6.406%	40,709
Pension Plan at Work	-3.011%	0.375%	12.515%	40,709
SNAP (Food Stamp) Recipient	-0.349%	0.099%	-1.078%	40,676
Below Poverty Line	0.898%	-0.036%	-2.879%	40,676

Source: Authors' analysis of the March CPS (IPUMS-CPS), Minnesota Population Center at the University of Minnesota (2010) for employed persons in 2011, 2012, and 2013. Dataset includes 275,655 observations of workers. Observations are weighted to match the U.S. Population. All displayed results are statistically significant. For full regression analyses, see Appendix Tables A, E, and F.

Workers in CB states receive 14.1 percent less in SNAP assistance on average compared to RTW workers and CB states have a lower share of the workforce who receives SNAP benefits (6.1 percent to 7.2 percent), as shown in Figures 8 and 10 respectively. The share of food stamp recipients grew by 0.1 percentage points per year due to RTW. And union membership again reduced the need for public aid, lowering the probability that a worker received SNAP assistance by 1.1 percentage points (Figure 11). The drop in union membership associated with RTW means that the policy reduces this positive benefit of labor unions. It should be emphasized once more that this analysis controlled for wage and salary income. Since wage and salary income are lower in RTW states, RTW increases the number of food stamp recipients in a state.

A RTW law is statistically associated with a 0.9 percentage point increase in the poverty rate for workers. Conversely, union membership reduces the chances that a worker is below the poverty line by 2.9 percentage points. Therefore, more workers need government assistance in RTW states.

RTW STATES FREE-RIDE ON SUBSIDIES FROM CB STATES

A disproportionate percentage of workers in right-to-work states are free-riders, whether purposefully or unintentionally. First, workers in RTW states who opt out of paying dues and fees to the collective bargaining unit free-ride on the efforts of others to provide the benefits of union membership. This includes the 17.4 percent increase in wages and salaries, the 1.2-hour increase in the workweek, the 0.6-week increase in the number of weeks worked, the 6.4 percentage point increase in health insurance coverage, and the 12.5 percentage point increase in pension coverage at work. Similarly, the low-wage, low-skill model of RTW employment means that workers in RTW states free-ride on government assistance subsidized by workers in CB states. A higher share of workers in CB states pay federal income taxes than in RTW states, and CB workers pay 12.1 percent more in federal income taxes after accounting for other factors. Lower rates of health insurance and retirement plan coverage combined with elevated spending on food stamps indicate that public assistance is higher in RTW states.

Even if health and retirement benefits are excluded, it is apparent that workers in RTW states benefit disproportionately from government assistance (Figure 12). The average worker in a RTW state receives 9.3 percent of his or her total annual income (from all sources) from non-health, non-retirement government assistance. By contrast, this type of public aid constitutes just 7.4 percent of the average CB worker's total income. Accordingly, non-health, non-retirement assistance amounts to \$0.232 per dollar of federal income tax contributions for the average worker in a RTW state compared to a lower \$0.187 per dollar for the average CB worker (Figure 12).

Figure 12: Non-Health, Non-Retirement Government Assistance to Workers as a Share of Income and Tax Contributions, CB States vs. RTW States, 2011-2013

2011-2013 Government Assistance to Workers	RTW	CB
Non-Health, Non-Retirement Assistance Share of Total Income from All Sources	9.32%	7.44%
Non-Health, Non-Retirement Assistance Per \$1 of Federal Contributions	\$0.232	\$0.187

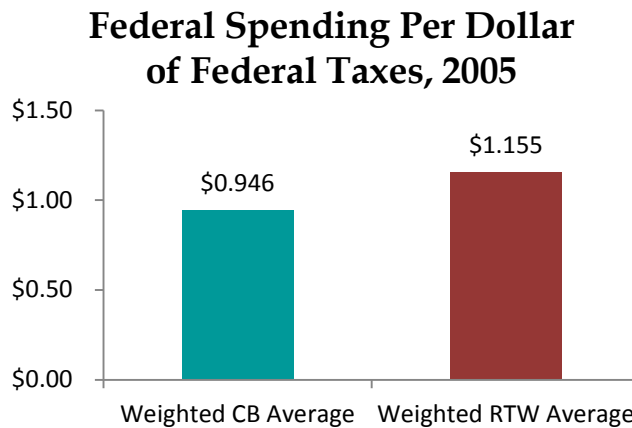
Source: Authors' analysis of the March CPS (IPUMS-CPS), Minnesota Population Center at the University of Minnesota (2010) for employed persons in 2011, 2012, and 2013. Dataset includes 275,655 observations of workers. Observations are weighted to match the U.S. Population.

These findings parallel 2005 data from the nonprofit Tax Foundation on "Federal Taxes Paid vs. Spending Received by State" (Tax Foundation, 2007). Figures from the Tax Foundation comprised all types of federal spending to the entire state population (i.e., including spending on infrastructure investments, Social Security, Medicaid, etc.) compared to all federal tax revenues from the population. In 2005, federal spending for each dollar of federal taxes was \$1.16 per dollar in all RTW states but just \$0.95 in all CB states (Figure 13). The comparable figure in Illinois, an example of a high-wage CB state, was just \$0.75 per dollar. The data suggest that CB states (including Indiana and Michigan in 2005) are "donor states," subsidizing government investment in low-income RTW states, which are poorer in part *because of* the RTW policy. For additional information and a full table of spending per dollar of federal taxes by state, see Table G of the Appendix.

A similar story can be told with 2012 data from the Bureau of Economic Analysis (BEA, 2013). Figure 14—which includes Indiana as a RTW state but excludes Michigan—displays economic data per *capita* rather than per worker. Nevertheless, in 2012, the net of taxes on production and imports minus subsidies to private businesses was lower in RTW states, at \$3,008 per capita, than in CB states (\$3,356 per capita). As a

result of lower tax revenues from lower wages and disproportionate subsidies to businesses, economic activity in RTW states is supported by workers in CB states (Figure 14).

Figure 13: Federal Spending Per Dollar of Federal Taxes by State, CB States vs. RTW States, 2005



Source: Authors' analysis of the "Federal Taxes Paid vs. Spending Received by State" by the Tax Foundation (2007) for 2005. Dataset includes the District of Columbia. Observations are weighted by state population to provide average estimates for CB states and RTW states. For more information, see Appendix Table F.

Data from the Bureau of Economic Analysis also reveals that labor's share of a state's gross domestic product (GDP) is higher in CB states (Figure 14). In 2012, compensation of employees— which includes wage and salary income plus employer contributions for employee pension funds, employee insurance funds, and government social insurance— was 54.4 percent of GDP in CB states but just 51.5 percent of GDP in RTW states. By contrast, gross operating surplus— which includes proprietor income, corporate profits, net transfer payments from businesses and governments, and fixed capital depreciation— is 39.1 percent in CB states but 41.7 percent in RTW states. This information supports Stevans' (2009) conclusion that a RTW law transfers income from employees to owners. Thus, subsidies from workers in CB states are bankrolling a low-wage employment model which also redistributes income from labor to capital in RTW states.

Figure 14: Per-Capita GDP, Per-Capita Taxes Minus Subsidies, and Share of GDP by Labor and Capital, CB States vs. RTW States, 2012

2012 Bureau of Economic Analysis	RTW State	CB State
Gross Domestic Product (GDP) Per Capita	\$44,114.08	\$51,910.95
Taxes Minus Subsidies Per Capita	\$3,007.55	\$3,355.55
Labor Share of GDP (Compensation of Employees)	51.45%	54.39%
Capital Share of GDP (Gross Operating Surplus)	41.73%	39.14%

Source: Authors' analysis of "Regional Data: GDP & Personal Income" by the Bureau of Economic Analysis (BEA) for 2012.

WHAT IF ILLINOIS WAS A RTW STATE? APPLYING THE FINDINGS

Figure 15 uses Illinois as a case study to demonstrate the effects of a right-to-work law on labor market outcomes. The data "as a CB state" are the weighted estimates for Illinois in 2013, the most recent year in the March CPS dataset. Estimates "if a RTW state" are based on the causal effect of a RTW law on the given labor market outcome as provided in the advanced regressions from Appendix Tables A through F *plus* the effects from a predicted 9.6 percentage point decline in union membership due to the RTW law.



If Illinois was a RTW state in 2013, employment and the quantity of labor would have been slightly higher. Total employment in the state would have increased by about 46,600 workers while labor market participation would have fallen by about 57,600 individuals, artificially lowering the unemployment rate. Employed persons in Illinois would also have worked 0.6 weeks and 0.3 hours more on average in a hypothetical RTW Illinois. Combined, the increases in employment, hours, and weeks would have translated into an additional 294.7 million hours worked (or total labor supplied) by the Illinois workforce over the year (Figure 15).

These employment impacts, however, would have come at an exorbitant cost. First, the average worker's income from wages and salaries would have been \$2,444 lower in a RTW Illinois, leading to a \$12.3 billion reduction in total labor income across the state. Thus, the price paid to increase employment by about 46,600 workers would have been \$264,033 in lost income per additional job created. Furthermore, health insurance coverage, pension coverage, and labor union coverage would have respectively been 4.1 percentage points, 4.2 percentage points, and 9.6 percentage points lower in the state. The loss in benefits from a decline in employer-sponsored welfare plans would have been transferred onto taxpayers as a social cost. Additionally, the official poverty rate of workers would have been 1.2 percentage points higher in Illinois. Consequently, although there would have been a slightly lower *percentage* of workers on food stamps, lower incomes across the board would result in a higher *value* of food stamps per recipient, leading to \$159.0 million in added food stamp spending in a RTW Illinois. Earned Income Tax Credit relief in a RTW Illinois would have been \$307.1 million higher, further straining the public budget. Finally, after-credit federal income tax contributions would have been \$4.8 billion lower each year and annual state income tax revenues would have been \$492.3 million lower in a RTW Illinois (Figure 15).

The increase in hours worked and weeks worked associated with a RTW law is likely the consequence of a new "labor-leisure tradeoff" faced by workers. That is, workers suffer a drop in wages due to RTW and must work more hours to earn anywhere near the same amount of money as a comparable CB worker. The real question for policymakers is whether a 0.7 percent increase in employment is worth a 4.2 percent decrease in total labor income across the state, a 4.2 percent decrease in state income tax revenues, a 12.2 percent decrease in federal income tax revenues, an increase in working poverty, and a higher reliance on government assistance. All of these findings and figures are closely aligned with high-end estimates in another 2013 University of Illinois paper on RTW's predicted impact on Illinois which analyzed data from a different source (the CPS Outgoing Rotation Group) over a longer period of time from 2003 to 2012 (Manzo et al., 2013). The economics principle of "Pareto optimality" dictates that a policy which benefits a select few workers at the expense of the many is inefficient. Thus, a right-to-work law should be regarded as a bad public policy.

Figure 15: Comparison of Illinois as a CB State to Illinois at a RTW State, Inputs from Regressions, 2013 Estimates

2013 Illinois Estimates	As a CB State	If a RTW State	Difference
Employment	5,940,648 workers	5,987,265 workers	46,617 workers
Labor Force	6,519,637 participants	6,462,066 participants	-57,571 participants
<u>Worker Earnings</u>			
Wage and Salary Income	\$49,824	\$47,380	-\$2,444
Total Labor Income (Annual Earnings)	\$295,985,241,977	\$283,676,825,779	-\$12,308,416,198
<u>Quantity of Labor</u>			
Weeks Worked	47.84 weeks	48.40 weeks	0.56 weeks
Usual Hours Worked	38.28 hours	38.56 hours	0.28 hours
Total Labor Supply (Worker-Hours)	10,879,020,349 hours	11,173,722,970 hours	294,702,621 hours
<u>Worker Coverage</u>			
Has Health Insurance	85.55%	81.41%	-4.14%
Has Pension Plan At Work	52.44%	48.23%	-4.21%
Union Membership Rate	16.33%	6.75%	-9.59%
<u>Government Assistance</u>			
Food Stamp Recipient Rate	6.94%	6.69%	-0.25%
SNAP (Food Stamp) Spending	\$1,454,929,921	\$1,613,884,569	\$158,954,647
EITC Spending	\$1,548,266,782	\$1,855,334,975	\$307,068,193
Official Poverty Rate	5.71%	6.88%	1.17%
<u>Tax Contributions</u>			
Federal Income Taxes, After Credits	\$39,242,085,028	\$34,472,340,573	-\$4,769,744,455
State Income Taxes (4%)*	\$11,839,409,679	\$11,347,073,031	-\$492,336,648

Source: Authors' analysis of the March CPS (IPUMS-CPS), Minnesota Population Center at the University of Minnesota (2010) for employed persons in 2011, 2012, and 2013. Dataset includes 275,655 observations of workers. Observations are weighted to match the Illinois Population. Inputs from Appendix Table A, Table B, Table C, Table D, Table E, and Table F.

*A 4 percent state income tax rate is used due to uncertainty over a possible extension of the temporary flat income tax hike from 3 percent to 5 percent. In addition, even with a 5 percent state income tax, Illinois' EITC means that many workers pay less than the 5 percent rate.

CONCLUSION

Right-to-work laws have negative impacts on the public budget. First, a RTW law reduces worker earnings from wages and salaries by 3.2 percent on average. As a result, even though employment increases by a small amount (+0.4 percentage points) and employees work slightly more hours per week (+0.6 hours) and weeks per year (+0.4 weeks), workers have less money to spend in the economy and contribute toward tax revenues. Second, a RTW policy decreases both the labor force participation rate (-0.5 percentage points) of the population and the union membership rate (-9.6 percentage points). Working-age residents who drop out of the labor force depend on government assistance; a decline in union membership diminishes the positive effects of unionization which keep workers off of public assistance and allow them to support a family. Finally, a RTW law lowers the after-credit federal income tax liability of workers by 11.1 percent, lowers the share of workers who are covered by a health insurance plan by 3.5 percentage points, and lowers the share of workers who are covered by a pension plan by 3.0 percentage points. Meanwhile, RTW raises the poverty rate, increasing government spending on food stamps and the Earned Income Tax Credit. RTW, therefore, decreases government revenues *from* workers but increases government spending *on* workers.

Workers in CB states are subsidizing the low-wage model of employment in RTW states. While workers in RTW states account for 37.4 percent of all federal income tax revenues before credits and deductions, they receive 41.9 percent of all non-health, non-retirement government assistance. Workers in RTW states receive \$0.232 in non-health, non-retirement government assistance per dollar of federal income tax contributions compared to \$0.187 per dollar for each worker in a CB state. Additionally, a larger share of the RTW workforce (46.6 percent) pays nothing in federal income taxes than the CB workforce (44.5 percent). In sum, non-health, non-retirement government assistance constitutes 9.3 percent of the average worker's total income in a RTW state compared to 7.4 percent in a CB state. Pairing these findings with the fact that capital's share of GDP is greater in RTW states demonstrates that CB workers are subsidizing employment practices which also redistribute income from labor to capital in RTW states.



The question for policymakers is whether a small increase in employment is worth a significant decrease in total labor income, a considerable decline in state income tax revenues, an even larger drop in federal income tax revenues, and an increased depletion of public budgets. If Illinois was a RTW state, for example, employment would have increased by less than 47,000 workers but labor income would have been \$12.3 billion lower. Accompanying declines in government revenues would have totaled \$4.8 billion lost in federal income tax revenues and about \$500 million lost in state income tax revenues over the year, while government assistance in the form of food stamps and EITC benefits would have increased by over \$440 million.

Right-to-work laws have overall negative impacts for American workers. RTW laws promote free-riding at both the microeconomic level and the macroeconomic level. They allow workers to free-ride on the efforts of their peers in a collective bargaining unit and, by reducing worker incomes, allow poorer RTW states to free-ride on the higher income tax revenues generated by workers in CB states. Right-to-work laws weaken state economies and strain public budgets. Ultimately, the conclusive negative impacts of RTW—lower worker earnings, lower union membership rates, lower tax revenues, lower health and retirement coverage, and higher reliance on government assistance—greatly outweigh any minor employment benefits from the policy.

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APPENDIX

TABLE A: OLS REGRESSIONS OF THE IMPACT OF RIGHT-TO-WORK ON INCOME-BASED OUTCOMES, 2011-2013

Variable	ln(Wage and Salary Income)		ln(Total Income, All Sources)		ln(Federal Taxes, After Credits)	
	Coefficient	(St. Err.)	Coefficient	(St. Err.)	Coefficient	(St. Err.)
RTW law	-0.0323***	(0.0112)	-0.0435***	(0.0118)	-0.1107***	(0.0281)
Union member	0.1744***	(0.0113)	0.1252***	(0.0120)	0.1849***	(0.0246)
Year_ordinal	-0.0096	(0.0059)	-0.0118**	(0.0060)	0.0435***	(0.0129)
RTW*year_ordinal	-0.0133	(0.0088)	-0.0125	(0.0091)	-0.0153	(0.0206)
Age	0.0408***	(0.0020)	0.0229***	(0.0020)	0.0721***	(0.0043)
Age ²	-0.0004***	(0.0000)	-0.0001***	(0.0000)	-0.0006***	(0.0000)
Usual hours worked	0.0293***	(0.0005)	0.0230***	(0.0007)	0.0213***	(0.0011)
Weeks worked per year	0.0393***	(0.0006)	0.0287***	(0.0005)	0.0203***	(0.0016)
Lives in central city	0.1010***	(0.0099)	0.0946***	(0.0102)	0.1827***	(0.0234)
Lives in suburb	0.0840***	(0.0083)	0.0754***	(0.0088)	0.1850***	(0.0193)
Female	-0.1663***	(0.0089)	-0.1773***	(0.0092)	-0.0794***	(0.0192)
Married	0.1046***	(0.0091)	0.0884***	(0.0091)	0.6153***	(0.0201)
Divorced	0.0603***	(0.0129)	0.0587***	(0.0136)	0.0371	(0.0248)
Immigrant	-0.0155	(0.0155)	-0.0344***	(0.0154)	-0.0540**	(0.0349)
Citizen	0.0681***	(0.0186)	0.0854***	(0.0190)	0.1543***	(0.0461)
Latino or Latina	-0.0132	(0.0291)	-0.0089	(0.0293)	-0.1248*	(0.0641)
White, non-Latino	0.0435	(0.0274)	0.0368	(0.0276)	0.1242**	(0.0582)
African-American	-0.0171	(0.0293)	-0.0209	(0.0295)	-0.0998	(0.0628)
Asian or Pacific Islander	0.0010	(0.0320)	0.0101	(0.0328)	0.0064	(0.0707)
In school, full-time	-0.1535***	(0.0239)	-0.1076***	(0.0272)	-0.5254***	(0.0759)
In school, part-time	-0.0202	(0.0288)	-0.0253	(0.0315)	-0.1806**	(0.0759)
Federal government	0.0858***	(0.0225)	0.0784***	(0.0237)	0.1452***	(0.0524)
State government	-0.0893***	(0.0192)	-0.1079***	(0.0197)	-0.1102***	(0.0424)
Local government	-0.0448***	(0.0171)	-0.0581***	(0.0171)	-0.0222	(0.0387)
Less than high school	-0.1508***	(0.0156)	-0.2108***	(0.0186)	-0.3291***	(0.0460)
Some college, no degree	0.0624***	(0.0108)	0.0841***	(0.0176)	0.1094***	(0.0259)
Associates, occupational	0.1199***	(0.0171)	0.1540***	(0.0118)	0.2120***	(0.0344)
Associates, academic	0.1377***	(0.0145)	0.1584***	(0.0177)	0.2494***	(0.0511)
Bachelors	0.3113***	(0.0116)	0.3317***	(0.0152)	0.5503***	(0.0308)
Masters	0.4716***	(0.0162)	0.4964***	(0.0122)	0.7850***	(0.0467)
Professional or doctorate	0.5755***	(0.0292)	0.6532***	(0.0172)	1.0253***	(0.0190)
Veteran	0.0149	(0.0153)	0.0531***	(0.0287)	0.0116	(0.0308)
Has a disability	-0.1453***	(0.0232)	-0.0399	(0.0164)	-0.2054***	(0.0467)
Industry dummies	Y		Y		Y	
Occupation dummies	Y		Y		Y	
Firm size dummies	Y		Y		Y	
Constant	6.2487***	(0.1455)	7.8555***	(0.2002)	5.6445***	(0.2891)
R ²	0.6590		0.5969		0.4557	
Observations	39,745		40,192		22,607	
Weighted	22,153,964		22,420,406		13,146,793	

Three asterisks (***) indicate significance at the 1% level, two asterisks (**) indicate significance at the 5% level, and one asterisk (*) indicates significance at the 10% level. Source: IPUMS-CPS (March), Minnesota Population Center at the University of Minnesota, 2011-2013. The data are adjusted by the sampling weight to match the total population 16 years of age or older. Year_ordinal values are 0 for 2011, 1 for 2012, and 2 for 2013. RTW*year_ordinal is the interaction term of RTW and year_ordinal, and is used to determine annual "growth" estimates. Also note the significant impact that education plays for all factors. For full regression outputs in a .txt format, please contact author Frank Manzo IV at fmanzo@illinoisepi.org.

TABLE B: PROBIT REGRESSIONS OF THE IMPACT OF RIGHT-TO-WORK ON LABOR FORCE OUTCOMES, 2011-2013

Variable	Prob(Employed)			Prob(In Labor Force)		
	Coefficient	(St. Err.)	AME	Coefficient	(St. Err.)	AME
RTW law	0.0126***	(0.0003)	0.0037***	-0.0174***	(0.0003)	-0.0045***
Year_ordinal	0.0140***	(0.0001)	0.0003***	0.0012***	(0.0002)	0.0003***
RTW*year_ordinal	0.0010***	(0.0001)	0.0041***	-0.0023***	(0.0002)	-0.0006***
Age	0.1040***	(0.0000)		0.0997***	(0.0000)	
Age ²	-0.0013***	(0.0000)		-0.0014***	(0.0000)	
Lives in central city	-0.0497***	(0.0003)		-0.0485***	(0.0003)	
Lives in suburb	-0.0070***	(0.0002)		0.0010***	(0.0002)	
Female	-0.3408***	(0.0003)		-0.4543***	(0.0002)	
Married	0.0325***	(0.0002)		-0.0579***	(0.0003)	
Divorced	0.0976***	(0.0004)		0.1216***	(0.0004)	
Immigrant	0.0330***	(0.0004)		0.0430***	(0.0004)	
Citizen	0.1298***	(0.0004)		0.1538***	(0.0005)	
Latino or Latina	0.1298***	(0.0007)		0.0817***	(0.0007)	
White, non-Latino	0.1650***	(0.0007)		0.1070***	(0.0007)	
African-American	-0.0527***	(0.0007)		-0.0239***	(0.0007)	
Asian or Pacific Islander	-0.0083***	(0.0008)		-0.0977***	(0.0008)	
In school, full-time	-0.6666***	(0.0004)		-0.9252***	(0.0004)	
In school, part-time	0.1234***	(0.0019)		0.0441***	(0.0009)	
Less than high school	-0.3182***	(0.0003)		-0.3026***	(0.0003)	
Some college, no degree	0.1568***	(0.0003)		0.1379***	(0.0003)	
Associates, occupational	0.3228***	(0.0005)		0.3062***	(0.0005)	
Associates, academic	0.3154***	(0.0004)		0.2877***	(0.0005)	
Bachelors	0.3637***	(0.0003)		0.3065***	(0.0003)	
Masters	0.4887***	(0.0004)		0.4236***	(0.0004)	
Professional or doctorate	0.6947***	(0.0007)		0.6189***	(0.0007)	
Veteran	0.1661***	(0.0004)		-0.1921***	(0.0004)	
Has a disability	-1.0183***	(0.0003)		-1.0936***	(0.0003)	
Constant	-1.2284***	(0.0011)	0.5908***	-0.5744***	(0.0011)	0.6462***
R ²	0.2431			0.2906		
Observations	445,150			445,150		
Weighted	Y			Y		

AMEs are the “average marginal effects” or “average partial effects,” and are the important figures in this output. Probit regressions report the (positive or negative) direction of the effect that a factor has on the binary variable of interest and whether the output is statistically significant. AMEs are used to determine the magnitude of statistically significant factors. Three asterisks (***) indicate significance at the 1% level, two asterisks (**) indicate significance at the 5% level, and one asterisk (*) indicates significance at the 10% level. Source: IPUMS-CPS (March), Minnesota Population Center at the University of Minnesota, 2011-2013. The data are adjusted by the supplement weight (using importance weights) to match the total population 16 years of age or older. Year_ordinal values are 0 for 2011, 1 for 2012, and 2 for 2013. RTW*year_ordinal is the interaction term of RTW and year_ordinal, and is used to determine annual “growth” estimates. For full regression outputs in a .txt format, please contact author Frank Manzo IV at fmanzo@illinoisepi.org.

TABLE C: OLS REGRESSIONS OF THE IMPACT OF RIGHT-TO-WORK ON QUANTITY-OF-LABOR OUTCOMES, 2011-2013

Variable	Usual Hours Worked Per Week		Weeks Worked Per Year	
	Coefficient	(St. Err.)	Coefficient	(St. Err.)
RTW law	0.6156***	(0.0727)	0.3892***	(0.1646)
Union member	1.1487***	(0.0950)	0.5763***	(0.1551)
Year_ordinal	0.0773	(0.0346)	0.0085	(0.0810)
RTW*year_ordinal	0.0640	(0.0537)	-0.1795	(0.1246)
Age	0.5922***	(0.0170)	0.3477***	(0.0296)
Age ²	-0.0070***	(0.0002)	-0.0032***	(0.0003)
Usual hours worked			0.1696***	(0.0073)
Weeks worked per year	0.2030***	(0.0017)		
Lives in central city	-0.1533	(0.0617)	0.2048	(0.1484)
Lives in suburb	-0.4775***	(0.0536)	0.0834	(0.1202)
Female	-3.0540***	(0.0608)	0.2155*	(0.1239)
Married	0.3168***	(0.0570)	0.3047***	(0.1276)
Divorced	1.1361***	(0.0643)	-0.0364	(0.1796)
Immigrant	-0.0016	(0.0967)	0.1486	(0.2142)
Citizen	-0.0544	(0.0944)	0.5259*	(0.2836)
Latino or Latina	0.1227	(0.1382)	0.5040	(0.4335)
White, non-Latino	0.1689	(0.1274)	0.2202	(0.3923)
African-American	-0.0671	(0.1349)	-0.0224	(0.4262)
Asian or Pacific Islander	0.2036	(0.1789)	-0.2564	(0.4797)
In school, full-time	-8.0887***	(0.1229)	-2.1474***	(0.4489)
In school, part-time	-2.2146***	(0.2488)	1.4123***	(0.4878)
Federal government	-1.0568	(0.1756)	0.5326*	(0.3016)
State government	-0.2877	(0.1200)	0.1359	(0.2796)
Local government	-0.3001***	(0.1196)	-0.2880	(0.2433)
Less than high school	-1.2087***	(0.0687)	-1.0767***	(0.2661)
Some college, no degree	0.0316	(0.0625)	-0.0111	(0.1641)
Associates, occupational	0.2634	(0.1261)	0.1991	(0.2356)
Associates, academic	0.2601	(0.1080)	0.1556	(0.2240)
Bachelors	1.1200***	(0.0868)	0.1670	(0.1585)
Masters	1.4345***	(0.1545)	-0.0900	(0.2038)
Professional or doctorate	4.8813***	(0.3213)	-0.0657	(0.2950)
Veteran	-0.0732	(0.1029)	-0.6597***	(0.2116)
Has a disability	-2.5712***	(0.1051)	-1.2331***	(0.3320)
Industry dummies	Y		Y	
Occupation dummies	Y		Y	
Firm size dummies	Y		Y	
Constant	-11.1126***	(0.6409)	-8.3682***	(2.3367)
R ²	0.4207		0.4769	
Observations	40,709		40,709	
Weighted	22,742,282		22,742,282	

Three asterisks (***) indicate significance at the 1% level, two asterisks (**) indicate significance at the 5% level, and one asterisk (*) indicates significance at the 10% level. Source: IPUMS-CPS (March), Minnesota Population Center at the University of Minnesota, 2011-2013. The data are adjusted by the sampling weight to match the total population 16 years of age or older. Year_ordinal values are 0 for 2011, 1 for 2012, and 2 for 2013. RTW*year_ordinal is the interaction term of RTW and year_ordinal, and is used to determine annual "growth" estimates. For full regression outputs in a .txt format, please contact author Frank Manzo IV at fmanzo@illinoispi.org.

TABLE D: PROBIT REGRESSION OF THE IMPACT OF RIGHT-TO-WORK ON UNION MEMBERSHIP, 2011-2013

Variable	Coefficient	Prob(Employed)	AME
		(St. Err.)	
RTW law	-0.6784***	(0.0015)	-0.0959***
Year_ordinal	0.0310***	(0.0006)	0.0044***
RTW*year_ordinal	-0.0205***	(0.0011)	-0.0029***
Age	0.0325***	(0.0002)	
Age ²	-0.0003***	(0.0000)	
Usual hours worked	0.0067***	(0.0001)	
Weeks worked per year	0.0053***	(0.0000)	
Lives in central city	0.1476***	(0.0012)	
Lives in suburb	0.1278***	(0.0010)	
Female	-0.0780***	(0.0010)	
Married	0.0220***	(0.0011)	
Divorced	0.0116***	(0.0015)	
Immigrant	0.0478***	(0.0017)	
Citizen	0.3163***	(0.0024)	
Latino or Latina	0.0467***	(0.0037)	
White, non-Latino	-0.0221***	(0.0035)	
African-American	0.0968***	(0.0037)	
Asian or Pacific Islander	0.0038	(0.0041)	
In school, full-time	-0.3265***	(0.0033)	
In school, part-time	-0.1509***	(0.0043)	
Federal government	0.6100***	(0.0022)	
State government	0.7044***	(0.0018)	
Local government	0.8841***	(0.0016)	
Less than high school	-0.2049***	(0.0021)	
Some college, no degree	0.0246***	(0.0013)	
Associates, occupational	0.0203***	(0.0020)	
Associates, academic	0.0560***	(0.0018)	
Bachelors	-0.0857***	(0.0014)	
Masters	0.0818***	(0.0017)	
Professional or doctorate	-0.3818***	(0.0028)	
Veteran	-0.0276***	(0.0016)	
Has a disability	-0.0171***	(0.0022)	
Industry dummies	Y		
Occupation dummies	Y		
Firm size dummies	Y		
Constant	-3.6838***	(0.0226)	0.1166***
R ²	0.2877		
Observations	40,709		
Weighted	Y		

AMEs are the “average marginal effects” or “average partial effects,” and are the important figures in this output. Probit regressions report the (positive or negative) direction of the effect that a factor has on the binary variable of interest and whether the output is statistically significant. AMEs are used to determine the magnitude of statistically significant factors. Three asterisks (***) indicate significance at the 1% level, two asterisks (**) indicate significance at the 5% level, and one asterisk (*) indicates significance at the 10% level. Source: IPUMS-CPS (March), Minnesota Population Center at the University of Minnesota, 2011-2013. The data are adjusted by the supplement weight (using importance weights) to match the total population 16 years of age or older. Year_ordinal values are 0 for 2011, 1 for 2012, and 2 for 2013. RTW*year_ordinal is the interaction term of RTW and year_ordinal, and is used to determine annual “growth” estimates. For full regression outputs in a .txt format, please contact author Frank Manzo IV at fmanzo@illinoisepi.org.

TABLE E: PROBIT REGRESSIONS OF THE IMPACT OF RIGHT-TO-WORK ON HEALTH AND WELFARE BENEFITS, AVERAGE MARGINAL EFFECTS 2011-2013

Variable	Has Health Insurance		Has Pension Plan at Work	
	AME	(St. Err.)	AME	(St. Err.)
RTW law	-0.0353***	(0.0001)	-0.0301***	(0.0003)
Union member	0.0641***	(0.0003)	0.1252***	(0.0003)
Year_ordinal	-0.0122***	(0.0001)	-0.0047***	(0.0001)
RTW*year_ordinal	0.0051***	(0.0002)	0.0037***	(0.0002)
Real Income from Wages	8.79e⁻⁷***	(0.0000)	3.48e⁻⁷***	(0.0000)
Age dummies	Y		Y	
Usual hours worked	Y		Y	
Weeks worked per year	Y		Y	
Urban status dummies	Y		Y	
Gender dummy	Y		Y	
Marital status dummies	Y		Y	
Immigration status dummy	Y		Y	
Citizenship dummy	Y		Y	
Race/ethnicity dummies	Y		Y	
School attendance dummies	Y		Y	
Public sector dummies	Y		Y	
Educational attainment dummies	Y		Y	
Veteran status dummy	Y		Y	
Disability dummy	Y		Y	
Veteran	Y		Y	
Has a disability	Y		Y	
Industry dummies	Y		Y	
Occupation dummies	Y		Y	
Firm size dummies	Y		Y	
Constant	0.8342***	(0.0001)	0.5469***	(0.0001)
R ²	0.2274		0.2456	
Observations	40,709		40,709	
Weighted	Y		Y	

AMEs are the “average marginal effects” or “average partial effects,” and are the important figures in this output. Probit regressions report the (positive or negative) direction of the effect that a factor has on the binary variable of interest and whether the output is statistically significant. AMEs are used to determine the magnitude of statistically significant factors. Three asterisks (***) indicate significance at the 1% level, two asterisks (**) indicate significance at the 5% level, and one asterisk (*) indicates significance at the 10% level. Source: IPUMS-CPS (March), Minnesota Population Center at the University of Minnesota, 2011-2013. The data are adjusted by the supplement weight (using importance weights) to match the total population 16 years of age or older. Year_ordinal values are 0 for 2011, 1 for 2012, and 2 for 2013. RTW*year_ordinal is the interaction term of RTW and year_ordinal, and is used to determine annual “growth” estimates. For full regression outputs in a .txt format, please contact author Frank Manzo IV at fmanzo@illinoisepi.org.

TABLE F: PROBIT REGRESSIONS OF THE IMPACT OF RIGHT-TO-WORK ON POVERTY OUTCOMES, AVERAGE MARGINAL EFFECTS 2011-2013

Variable	Receives SNAP Assistance		Below Official Poverty Line	
	AME	(St. Err.)	AME	(St. Err.)
RTW law	-0.0035***	(0.0003)	0.0090***	(0.0001)
Union member	-0.0108***	(0.0003)	-0.0288***	(0.0002)
Year_ordinal	-0.0028***	(0.0001)	0.0043***	(0.0001)
RTW*year_ordinal	0.0010***	(0.0002)	-0.0004***	(0.0001)
Real Income from Wages	-1.83e⁻⁶***	(0.0000)	N	
Age dummies	Y		Y	
Usual hours worked	Y		Y	
Weeks worked per year	Y		Y	
Urban status dummies	Y		Y	
Gender dummy	Y		Y	
Marital status dummies	Y		Y	
Immigration status dummy	Y		Y	
Citizenship dummy	Y		Y	
Race/ethnicity dummies	Y		Y	
School attendance dummies	Y		Y	
Public sector dummies	Y		Y	
Educational attainment dummies	Y		Y	
Veteran status dummy	Y		Y	
Disability dummy	Y		Y	
Veteran	Y		Y	
Has a disability	Y		Y	
Industry dummies	Y		Y	
Occupation dummies	Y		Y	
Firm size dummies	Y		Y	
Constant	0.0566***		0.0617***	(0.0000)
R ²	0.2270		0.3031	
Observations	40,676		40,676	
Weighted	Y		Y	

AMEs are the “average marginal effects” or “average partial effects,” and are the important figures in this output. Probit regressions report the (positive or negative) direction of the effect that a factor has on the binary variable of interest and whether the output is statistically significant. AMEs are used to determine the magnitude of statistically significant factors. Three asterisks (***) indicate significance at the 1% level, two asterisks (**) indicate significance at the 5% level, and one asterisk (*) indicates significance at the 10% level. Source: IPUMS-CPS (March), Minnesota Population Center at the University of Minnesota, 2011-2013. The data are adjusted by the supplement weight (using importance weights) to match the total population 16 years of age or older. Year_ordinal values are 0 for 2011, 1 for 2012, and 2 for 2013. RTW*year_ordinal is the interaction term of RTW and year_ordinal, and is used to determine annual “growth” estimates. For full regression outputs in a .txt format, please contact author Frank Manzo IV at fmanzo@illinoisepi.org.

TABLE G: 2005 FEDERAL TAXES PAID VS. SPENDING RECEIVED BY STATE, RIGHT-TO-WORK STATES VS. COLLECTIVE-BARGAINING STATES, TAX FOUNDATION

RTW State	Federal Spending Per Dollar of Federal Taxes	CB State	Federal Spending Per Dollar of Federal Taxes
<i>Weighted RTW Average</i>	\$1.155	<i>Weighted CB Average</i>	\$0.946
Mississippi	\$2.02	New Mexico	\$2.03
Louisiana	\$1.78	Alaska	\$1.84
North Dakota	\$1.68	West Virginia	\$1.76
Alabama	\$1.66	Kentucky	\$1.51
South Dakota	\$1.53	Montana	\$1.47
Virginia	\$1.51	Hawaii	\$1.44
Arkansas	\$1.41	Maine	\$1.41
Oklahoma	\$1.36	Missouri	\$1.32
South Carolina	\$1.35	Maryland	\$1.30
Tennessee	\$1.27	Vermont	\$1.08
Idaho	\$1.21	Pennsylvania	\$1.07
Arizona	\$1.19	Indiana (Became RTW in 2012)	\$1.05
Kansas	\$1.12	Ohio	\$1.05
Wyoming	\$1.11	Rhode Island	\$1.00
Iowa	\$1.10	Oregon	\$0.93
Nebraska	\$1.10	Michigan (Became RTW in 2013)	\$0.92
North Carolina	\$1.08	Washington	\$0.88
Utah	\$1.07	Wisconsin	\$0.86
Georgia	\$1.01	Massachusetts	\$0.82
Florida	\$0.97	Colorado	\$0.81
Texas	\$0.94	New York	\$0.79
Nevada	\$0.65	California	\$0.78
		Delaware	\$0.77
		Illinois	\$0.75
		Minnesota	\$0.72
		New Hampshire	\$0.71
		Connecticut	\$0.69
		New Jersey	\$0.61
		District of Columbia	\$5.55

Source: Tax Foundation (2007) for FY2005. The data are adjusted by each state's population to determine the weighted average for all RTW states and all CB states. Note that most of the larger "donor" states which receive back less than they contribute (less than \$1.00 in federal spending per dollar of federal taxes) are also those with large budget deficits. These states are, at least in part, subsidizing the general funds of other states at the expense of their own state budgets.

TABLE H: LIST OF RIGHT-TO-WORK STATES AND COLLECTIVE-BARGAINING STATES, AS OF JANUARY 1, 2014

24 RTW States	26 CB States Plus D.C.
Alabama	Alaska
Arizona	California
Arkansas	Colorado
Florida	Connecticut
Georgia	Delaware
Idaho	District of Columbia
Indiana	Hawaii
Iowa	Illinois
Kansas	Kentucky
Louisiana	Maine
Michigan	Maryland
Mississippi	Massachusetts
Nebraska	Minnesota
Nevada	Missouri
North Carolina	Montana
North Dakota	New Hampshire
Oklahoma	New Jersey
South Carolina	New Mexico
South Dakota	New York
Tennessee	Ohio
Texas	Oregon
Utah	Pennsylvania
Virginia	Rhode Island
Wyoming	Vermont
	Washington
	West Virginia
	Wisconsin

